

## British Association—Dundee, 1968

# A Question for Every Answer

THE pages which follow embody an attempt by the members of the staff of *Nature* to draw attention to fields of science in which research seems recently to have been particularly interesting or even startling. Nobody claims—and nobody should think—that this necessarily restricted survey is exhaustive. Most readers will easily think of topics which could profitably have been included. Even if there have been few developments in the past year which can match the discovery of pulsating stars for sheer surprise, recent decades seem to have brought a particularly rich and uniform harvest of understanding and benefit. It is easy to devise tests to show how much has happened in the recent past. One thing to do is to ask the simple question whether it is credible that what seems now to be a fairly thorough understanding of the interplanetary medium and its interaction with the several sources of energy on the Sun can have been provoked out of virtual ignorance in the short space of a decade. In the same sense, it is really quite remarkable that molecular biology has been transformed from an infant science into something which is now mature, if necessarily incomplete (see page 826) in an interval of time which is equally brief. But geophysics is also booming, as is the study of animal behaviour. Elsewhere, traditional studies are spilling over into new and sometimes unexpected fields. In other words, there are plenty of signs that things are going well.

There are several reasons why it is important that this truth should be plainly recognized and well remembered. For one thing, this simple lesson should be a valuable counterpoise to the natural tendency to disenchantment with new developments in science. It is natural enough that the achievements of the immediate past should seem shrunken in comparison with what seem to be the problems of the immediate future, but that is strictly a subjective impression. It is also understandable that people who have been preoccupied with the practical problems of scientific research—the search for grants, for example, or the recruitment of people—should often be oblivious to the genuine and sustained interest of what they and their colleagues have accomplished. This backlash, as much a product of success as anything, unfortunately chimes in all too well with the tendency for people outside the profession of science to adopt somewhat jaundiced views about the directions in which and the pace at which good work is being carried on. The most serious loss arising from this misappreciation of the true state of affairs may be that the community as a whole is robbed of what should be a delicious sense that the great works originally set in train by the giants of the past still flourish. But there is also, of course, a danger that unreasonable disen-

chantment will have unhealthy effects on science as a whole. The meeting of the British Association at Dundee is a good occasion for remembering this.

Already there are many threatening signs. After some decades of sustained expansion, the volume of scientific research which the governments of countries like the United States and Britain are prepared to support has ceased to grow as quickly as in recent years. The most obvious reasons for this slackening off are different in the two countries. In Britain, a chronic financial crisis and the need—genuine enough—to keep public expenditure within bounds have been reinforced by the growing acceptance of the doctrine that scientific research in the pure sense is less desirable than technological development of the kind which can bring quick rewards. That there should be a tendency in this direction is understandable, but it will be hard for the Government to get the balance right and to do this without damaging the quality of science as such. In the United States, on the other hand, the problems which have prompted the recent wave of economizing are different—foreign wars and the manifest problems of how best to deal with race, poverty and planning make urgent demands on public attention and sometimes generosity. To some extent, these developments may bring good results—it will do no harm, for example, if some of the ambitious and often ill-considered plans for the exploration of space which have been designed in recent years were to be replaced by potentially more valuable programmes of research. Unfortunately, however, it seems very much as if the consequences of these economies will be unpleasant and damaging. The cloud is certainly bigger than a man's hand. The most worrying aspect of this wave of public economy is that it seems also to draw strength from a general conviction that scientific research is an optional item in public expenditure. A few years ago it was common for people to behave as if scientific research was a panacea. Now the pendulum seems to be swinging too far the other way and everybody could be the loser.

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